California Drinking Water Issues

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Clean Water Action
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Human Right to Water

“It is hereby declared to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.

All relevant state agencies…shall consider this state policy when revising, adopting or establishing policies, regulations, and grant criteria…”
Nitrate Health Impacts

**Acute (Short-term)**
- Methemoglobinemia (Blue Baby Syndrome)
- Severe gastroenteritis

**Chronic (Long-term)**
- Cancer (thyroid, colon, stomach, others)
- Impaired in utero growth, pre-term birth
- Birth Defects
- Pancreatitis
- Nervous system defects
Springfield Terrace

- 160 to 300+ residents in harvest months
- Drinking water exceeds 300 mg/L nitrate with violations as far back as 1986
Nitrate, Well Depth, and Land Use
USGS domestic well study 2006

- Urban
- Agriculture
- Forest
- Grass/shrub/rock

Western Tulare County

- Shallow wells (<200 ft)
  Mostly domestic and small-system

- Deep wells (screen >200 ft)
  Mostly public-supply and irrigation

Derived from GAMA PBP, GAMA DWP & USGS NWIS data
Arsenic

Health Effects

» cancer
» increased blood pressure
» hypertension
» cardiovascular disease
» reduced mental function in children
» tremors and numbness
Allensworth and Alpaugh
1,2,3-TCP

Dow

Telone II

SOIL FUMIGANT

The original and only
D-D

SOIL FUMIGANT

SHELL CHEMICAL COMPANY
Figure 3.1: 1,2,3-Trichloropropane in Active Community Water System Wells (251) with Two or More Detections above the Notification Level of 0.005 μg/L (Maximum Concentration Observed, 2002-2010)

1,2,3-TCP Contamination in the San Joaquin Valley
Cost Recovery Litigation
Uranium
Water Quality is not static

Figure 2. Relation between uranium in groundwater and depth below the water table to the uppermost perforated interval among well types in the eastern San Joaquin Valley, California.

Figure 4. Relation between uranium and bicarbonate in oxic groundwater in the eastern San Joaquin Valley, California.
Drought
East Porterville

Photo Courtesy of Community Water Center
Loss of Water Supply

» Total dry wells reported (July 2015): 2115
» Highest #: Tulare County, 1126
» #3: LA County, 150
» #4: Ventura County, 120
Distribution System Contaminants
Affordability

» Limited information collected about water rates and affordability
» Tiered rate structures in jeopardy based on recent Capistrano decision
» Prop 218 limits the ability to implement lifeline rates
» Successful water conservation equals higher water rates
Ducor, Ca
San Jerardo
Vulnerable Communities
Small Water Systems

» 7500 water systems in CA
» 3000 community water systems (residential water supplies)
» 2300 community systems with < 1000 connections
» About 400 schools have their own water system (non-transient, non-community)
Californians not served by a public water system

» Less 5-14 connections – state small systems
» 1-4 connections – private wells
» USGS Estimate 2.5 million in CA
» LA County estimate 575,900
# Small Water System Program Plan

<table>
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<tr>
<th>Progress Status</th>
<th>Previous Status Total</th>
<th>Current Status Total</th>
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<tr>
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<td>44</td>
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<tr>
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<td><strong>Total Funding (in millions)</strong></td>
<td><strong>$99.2</strong></td>
<td><strong>$134.1</strong></td>
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Here’s what’s not part of the plan

» Total Coliform violations – 121 systems
» Arsenic violations – 98
» Hex Chrome violations – 97
» Nitrate violations – 43
» Uranium - 11
Solutions
DRINKING WATER PROGRAM
MOVE TO STATE WATER BOARD

Office of Sustainable Water Solutions

Dedicated office within the State Board Division of Financial Assistance that coordinates financial, technical, legal and other assistance for impacted systems
Sustainable Groundwater Management
Change in San Joaquin Valley Groundwater levels 2013-2014

Department of Water Resources
2016 Goal
Protect Groundwater
What’s “undesirable” and who decides?

Significant and unreasonable….

- Lowering of groundwater levels
- Reduction of groundwater storage
- Seawater intrusion
- **Degraded water quality**
- Land subsidence
- Surface water depletions
Salt and Nutrient Management
Tighten current requirements for new development

» Current state law – 500 units triggers water supply assessment
What’s needed

» ....issuing permits to vulnerable systems!
Proposition 1

» $520 million for small water system infrastructure needs
» Up to 15% for technical assistance
» $51 million in IRWMP funding for DACs
» $90 million in Recycled water funding for DACs
» $800 million in GW remediation funding now being developed
Is this inevitable?
Water Conservation

» East LA – 51.4 gallons per capita per day, median income $37,982

» Beverly Hills – 235.9 gallons per capita per day, median income $86,141

» Distance between the two cities – 16 miles
Equity Challenges of Water Conservation Programs

» Most based on rebate formulas
» Indirect ratepayers (renters) have few options
» Programs developed and funded by individual water agencies
Affordability - recommendation

Develop water user fee to fund lifeline rates for low-income residents, both rural and urban
Thank you!

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